**INFO7390 – Advances Data Sci/Architecture**

**Project Report**

**Project Members (Team 3):**

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**Project Topic:**

HotelBooking Cancellation Prediction System

**Introduction:**

In a city like Boston, with an expanding employment market and prospects, as well as a growing number of individuals moving in, housing and hotel bookings are increasing at an exponential rate. In such a situation, we observe a large number of hotel booking cancellations at the eleventh hour every other day, resulting in needy people being unable to secure a hotel reservation. Hence, it is critical that we have a system in place that allows us to anticipate whether an incoming person with a specific set of predetermined qualities, information, and history will cancel his/her hotel reservation. A system like this would benefit not just those looking to book hotel rooms, but also hotel owners who have to deal with revenue loss due to cancellations.

This problem prompts the creation of a Machine Learning prediction system that could address this problem and notify the hotel owner or hotel booking platforms like Airbnb whether the created booking will be cancelled in the future. The business personnel can then determine whether or not to make bookings to such clients based on the expected outcome, or whether they should be charged a high cancellation fee.

We may now take on the challenge of obtaining any relevant dataset and forecasting it after following this course for almost two months. As a result, we've decided to tackle the topic of Hotel Booking Cancellation Prediction System in order to help a social cause.

**Methodology:**

To predict the airfare based on a respective dataset, I will be using the following steps:

1. Importing the Dataset
2. Cleaning the data
3. Handling categorical data
4. Exploratory Data Analysis
5. Test Set
6. Feature Selection
7. Model Building